THE THEORY OF RECAPITULATION

John Hunter apparently had a fair conception of the theory of recapitulation, the formulation of which is usually attributed to Fritz Müller about a century later. Hunter declared: "If we were capable of following the progress of increase of the number of the parts of the most perfect animal, as they first formed in succession, from the very first, to its state of full perfection, we should probably be able to compare it with some one of the incomplete animals themselves, of every order of animals in the Creation, being at no stage different than some of the inferior orders. Or, in other words, if we were to take a series of animals, from the more imperfect to the perfect, we should probably find an imperfect animal, corresponding with some stage of the most perfect." (*Ibid.*, p. 203.) In a footnote on this quotation, Richard Owen, who also emphasized the importance of this generalization, added: "The same philosophical idea seems to have governed Hunter in penning the following passage: 'We may also observe that the first rudiments of every animal are extremely soft, and even the rudiments of the more perfect are similar to the full-grown imperfect, and as they advance in growth they become firmer and firmer in texture.' —Croonian Lecture by Hunter for the year 1782, Animal Œconomy, p. 268."*

(To be continued)

CLINICAL NOTES AND CASE REPORTS

BLEEDING FROM THE ANUS—ITS SIGNIFICANCE

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THE passage of blood from the anus is a fairly common occurrence and, next to pain, most frequently sends the patient to his physician. Quite a number of causes are found for this condition. As to the location from which this bleeding arises, distinguishing characteristics may be recognized: first, in bright blood by itself; second, blood mixed with mucus, pus, or feces; and third, very dark blood, or even tarry stools.

1. Bright blood, which comes by itself or, at most, streaking the outside of stools, always is from the anus or terminal end of the gastro-intestinal tract. Of the pathological processes responsible for this, fissure or ulcer in ano are the nearest to the anal orifice, and their presence may be suspected by the sudden onset of an exquisite pain followed by a small amount of blood coming with or after defecation.

Next we note those cases, usually in adults, in which bleeding comes on painlessly, or practically so, either with or without defecation. Hemorrhoids will be the most common cause, although proctitis, neoplasms, and trauma are also to be considered. In the case of trauma any foreign body, such as bones, wire, pins, tacks, or almost any object the person may swallow or introduce through the anus, may be the cause. It must not be forgotten, however, that faulty instrumentation, either with the enema tube or the physician's instruments, may be the traumatizing agents.

If this fresh blood occurs in childhood, the cause will, in all probability, be either polypi, prolapsus, intussusception, or trauma from some object which has been swallowed.

2. Blood mixed with stool, pus, or mucus must, of necessity, come from a somewhat higher source than the former in order to give time and opportunity for the commingling of these elements. The majority of the pathological processes producing this condition are most serious, life-sapping, and distressing diseases.

The most common cause here is one or the other of the various dysenteries. Of these the acute bacillary is the most sudden in onset and has a rather profuse flow of blood. Occasionally, especially in the tropics, amebic dysentery may closely simulate the preceding, although usually it is more chronic and slower of onset. Chronic ulcerative colitis and balantidial dysentery have a rather insidious start, are slower to show bleeding, but very chronic in their course. Fortunately, typhoid, which in the past has been such a devastating disease, is now only rarely seen, but must be remembered as a possible cause in bleeding commingled with stools.

The microscopic examination of feces, as also the inspection by way of the proctoscope, go a long way in indicating the causative agent of these dysenteries.

Two exceedingly grave obstructive lesions must be remembered as productive of bleeding, namely, malignancy and stricture. In the case of cancer in the distal portion of the gastro-intestinal tract, the growth tends to encircle the lumen of the gut, with a consequent stasis of the bowel contents and the setting up of an irritative process. The neoplasm at the same time undergoes ulceration and infection, with a resultant destruction of the mucin-bearing cells and the underlying tissue. Hence, we have a foul-smelling discharge which, if it comes from the cancer alone, consists of pus, serum, and blood; but if the obstruction is not complete, will also have a more or less watery stool and mucus mixed therewith.

Should the obstructive lesion be a benign stricture, the sufferer will usually be a woman. The cause in almost every case will be that dread fourth venereal disease, regarding which we still know very little, lymphogranuloma inguinale. The discharge differs from that of cancer in that there is usually a greater amount of pus and mucus with a small amount of blood, often dribbling away to such an extent as to necessitate the wearing of a pad.

As further possible causative agents for stools with recent blood, one will remember polyposus, trauma, and some cases of diverticulosis.

* A fuller discussion of the historical aspects of the law of recapitulation can be found in my article on the subject in a forthcoming number of the *Quarterly Review of Biology*.

3. When the excreta shows dark blood, or is of a tarry consistency, we know immediately that the source from which it came must have been rather high in the gastro-intestinal tract, since time and the digestive ferments are needed to produce this change.

Malignancy is the most serious cause here, and is principally found in two locations. First, in the upper reaches of the colon or cecum, where they cause a rather free loss of blood and a profound cachexia. The other is in the stomach itself, the most common location of cancer of the whole alimentary tract.

The next most frequent cause of hemorrhage is the peptic ulcer, coming either from the duodenum, stomach, or even from the esophagus.

Occasionally corrosives, taken either inadvertently or with suicidal attempt, open up avenues for the loss of blood.

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SCIATICA SECONDARY TO FISTULA IN ANO

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THAT the anorectal region may harbor a focus of infection is generally recognized; but that such may be the case in the absence of symptoms referable to this area is apparently frequently overlooked.

The following case is so exceptionally illustrative, and such an enormous amount of time, effort and money were expended upon it before a diagnosis was reached, that it would seem well worth recording.

REPORT OF CASE

Mr. J. A. D., forty-four years of age. Married. Occupation: wholesale produce dealer.

Past History.—Irrelevant.

Present Illness.—Approximately eleven years ago he began to have an uneasy feeling in the lower back, especially after riding in an automobile. Two years later he had a sudden severe pain in the back, running down the posterior right leg. He was immediately disabled, was unable to straighten up, and could walk only with the greatest difficulty. As he did not obtain relief from osteopathic treatments, he consulted an internist, who made a diagnosis of sacro-iliac disease and sciatica, and he was fitted with a belt. This relieved the back pain somewhat, but did not affect the pain in the leg. He was disabled for about three years, during this time he was examined by many reputable men in general practice, orthopedics, and surgery, as well as chiropractors and osteopaths. The tonsils were removed, several teeth extracted, gastro-intestinal studies made and repeated, with the advice that his appendix and gall-bladder be removed, the belt was changed and apparently almost all types of therapy used without avail. He estimates that he spent between $5,000 and $6,000, which he could ill afford, in his effort to regain his health.

Because of an occasional mild diarrhea and a questionable diagnosis of amebic dysentery, he was sent for proctoscopic examination to a physician, who has since left this vicinity. Two infected anal crypts were found, and after incision of these the pain immediately disappeared. Approximately two years later there was some recurrence of the pain, which was again entirely relieved by attention to an infected crypt.

About eight months prior to my first examination, he again began to have sciatica, although he was not absolutely disabled. Treatment did not afford relief. On May 15, 1934, he was referred to me for incision of an infected crypt.

Complaints.—He complained of severe pain in the posterior right leg from the hip to the heel. At no time did he have symptoms referable to the anus or rectum, with the possible exception of the mild diarrhea.

Rectal Examination.—At the mucocutaneous junction, in the right posterior quadrant, a deep crypt was found to be present. Probing of this apparently aggravated the pain in the leg. With the exception of small internal hemorrhoids, the proctoscopic examination was negative.

Treatment.—Under local anesthesia, the crypt was opened. Immediately several drops of thick, yellow pus exuded. It was evident that we were dealing, not with a simple infected crypt, but with an incomplete internal fistula-in-ano. As it was impossible to obtain adequate drainage under local anesthesia, he was sent to the hospital, and two days later the fistula was excised and the wound packed with iodoform gauze. After removal of the gauze, the pain immediately disappeared and the wound healed in the usual manner.

Except for slight numbness in the leg, which he believes is gradually decreasing, he has been entirely well.

COMMENT

A case presenting the usual signs and symptoms of sciatica, due to an incomplete fistula in ano that caused no subjective symptoms has been cited.

It is suggested that the search for foci of infection in such cases should include not only the nose and throat, teeth, upper gastro-intestinal tract, genito-urinary system, but also the anorectal region.

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HERNIA OF A LOOP OF ILEUM INTO THE RETROCECAL FOSSA, WITH COMPLETE INTESTINAL OBSTRUCTION

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REPORT OF CASE

ON May 3, 1933, C. L., Chinese, male, aged fifty-four years, came to me complaining of pain in the right lower quadrant of the abdomen, inability to move the bowels, and nausea and vomiting of three days' duration.

The attack of abdominal pain began three days previous to his visit; the pain was intermittent in character and involved the entire lower abdomen, but was most severe on the right side. On the first day of his illness the patient took a laxative; shortly afterward he became nauseated and vomited three or four times. The bowels failed to move. No enema was attempted. He took nothing but coffee and a little water during the next two days, but felt nauseated many times, although he vomited very little. He passed no gas nor fecal material by bowel for three days.

The patient had had several previous attacks similar to the present one, but less severe, which he attributed to constipation, as he was relieved when the bowels moved. He denied all serious illness. Inasmuch as the patient spoke very little English, it was difficult to obtain a reliable history.

Physical Examination.—The patient was a Chinese, appearing much older than the stated age, thin and wrinkled, and obviously in severe abdominal pain. His temperature was 98 degrees Fahrenheit; pulse rate, 78 per minute; and respiration rate, 16 per minute.